

## CLAIMS

What Is Claimed Is:

1           Claim 1. A banknote dispensing device, comprising:  
2                   a banknote supply storing section for storing one or more banknotes;  
3                   a feed roller having a peripheral edge disposed adjacent to the banknote supply  
4 storing section, the peripheral edge of the feed roller for contacting a banknote in the  
5 banknote supply storing section, the feed roller being driven by a one-way clutch attached to  
6 a driving shaft, the feed roller discharging banknotes one at a time from the banknote supply  
7 storing section at a first predetermined speed; and  
8                   a transporting unit for receiving a discharged banknote from the banknote  
9 supply storing section and transporting the discharged banknote at a second predetermined  
10 speed from the banknote supply storing section, the second predetermined speed being faster  
11 than the first predetermined speed,  
12                 wherein the feed roller discharges a banknote at the first predetermined speed  
13 while allowing the discharged banknote to be continuously pulled by the transporting unit at  
14 the second predetermined speed.

1           Claim 2. The banknote dispensing device of Claim 1, further comprising:  
2                   a sensor for outputting a signal to indicate successful passage of a first  
3 banknote through the transporting unit, wherein after a first banknote arrives at the sensor, a  
4 second banknote is discharged from the banknote supply storing section at a predetermined  
5 time based on the rotating speed of the feed roller.

1           Claim 3. A banknote dispensing device, comprising:  
2                   a banknote supply storing section for storing one or more banknotes;

3 a feed roller having a peripheral edge disposed adjacent to the banknote supply  
4 storing section, the peripheral edge of the feed roller for contacting a banknote in the  
5 banknote supply storing section, the feed roller being driven by a one-way clutch attached to  
6 a driving shaft, the feed roller discharging banknotes one at a time from the banknote supply  
7 storing section at a first predetermined speed;

8 a transporting unit for receiving a discharged banknote from the banknote  
9 supply storing section and transporting the discharged banknote at a second predetermined  
10 speed from the banknote supply storing section, the second predetermined speed being faster  
11 than the first predetermined speed,

12 wherein the feed roller discharges a banknote at the first predetermined speed  
13 while allowing the discharged banknote to be continuously pulled by the transporting unit at  
14 the second predetermined speed;

15 a first sensor for detecting the presence of a banknote received by the  
16 transporting unit, the first sensor outputting a first signal to indicate the presence of the  
17 banknote adjacent to the first sensor;

18 a second sensor for detecting the presence of a banknote as the banknote is  
19 emitted by the transporting unit, the second sensor outputting a second signal to indicate the  
20 presence of the banknote adjacent to the second sensor; and

21 a control unit for receiving and processing the first signal and the second  
22 signal, the control unit comparing the timing of the first signal with the second signal to  
23 determine whether a banknote has properly passed through the transporting unit.

1 Claim 4. The banknote dispensing device of Claim 3,

2 wherein the banknote supply storing section is removable from the dispensing  
3 device.

1           Claim 5. The banknote dispensing device of Claim 3, further comprising:  
2                   a diverting unit for diverting a banknote from a first path to a second path, the  
3 first path being the normal banknote discharge path;  
4                   a rejected banknote storing section, the second path being the rejected  
5 banknote storage path; and  
6                   a third sensor for detecting the presence of a banknote adjacent the third  
7 sensor, the third sensor outputting a third signal to indicate successful passage of the received  
8 banknote through the transporting unit and to the rejected banknote storing section.

1           Claim 6. The banknote dispensing device of Claim 5,  
2                   wherein the banknote storing section and the rejected banknote storing section  
3 comprise a removable safe unit.

1           Claim 7. A banknote dispensing device, comprising:  
2                   a removable safe unit, the removable safe unit including a banknote supply  
3 storing section for retaining a supply of banknotes;  
4                   a banknote discharge unit, the banknote discharge unit including a feed roller  
5 having a peripheral edge disposed adjacent to the banknote supply storing section, the  
6 peripheral edge of the feed roller for contacting a banknote in the banknote supply storing  
7 section, the feed roller being driven by a one-way clutch attached to a driving shaft driven by  
8 a first motor, the feed roller discharging banknotes one at a time from the banknote supply  
9 storing section at a first predetermined speed;  
10                  a transporting unit for receiving a discharged banknote from the banknote  
11 supply storing section and transporting the discharged banknote at a second predetermined  
12 speed from the banknote supply storing section, the second predetermined speed being faster  
13 than the first predetermined speed, the discharge unit feed roller discharging a banknote at the

14 first predetermined speed while allowing the discharged banknote to be continuously pulled  
15 by the transporting unit at the second predetermined speed, the transporting unit being driven  
16 by a second motor;

17 an accumulating unit for receiving one or more discharged banknotes from the  
18 transporting unit, the accumulating unit having a package dispensing member for dispensing  
19 the accumulated discharged banknotes to a user; and

20 a control unit for controlling the operation of the first motor, the second motor,  
21 and the package dispensing member to dispense accumulated discharged banknotes to the  
22 user.

1 Claim 8. The banknote dispensing device of Claim 7, further comprising:

2 a first sensor for detecting the presence of a banknote received by the  
3 transporting unit from the banknote discharge unit, the first sensor outputting a first signal to  
4 the control unit indicating a predetermined property of the discharged banknote adjacent to  
5 the first sensor; and

6 a second sensor for detecting a predetermined property of the banknote as the  
7 banknote is passed to the accumulating unit of the dispensing device, the second sensor  
8 outputting a second signal to the control unit indicating successful passage of the received  
9 banknote through the transporting unit into the accumulating unit,

10 wherein the control unit receives and processes the first signal and the second  
11 signal, the control unit compares the timing of the first signal with the second signal to  
12 determine whether each banknote has properly passed through the transporting unit to the  
13 accumulating unit.

1 Claim 9. The banknote dispensing device of Claim 8, further comprising:

2                   a rejected banknote storing section for retaining rejected banknotes, the  
3 rejected banknote storing section being included in the removable safe unit;  
4                   a diverting unit for selectively diverting a discharged banknote to the rejected  
5 banknote storing section,  
6                   wherein the control unit determines from the first signal whether the  
7 discharged banknote is rejected, the control unit selectively activating the diverting unit for a  
8 rejected discharged banknote.

1           Claim 10. The banknote dispensing device of Claim 9, further comprising:

2                   a third sensor for detecting the presence of a banknote diverted by the  
3 diverting unit, the third sensor outputting a third signal to the control unit indicating a  
4 predetermined property of the discharged banknote adjacent to the third sensor,  
5                   wherein the control unit receives and processes the third signal, the control  
6 unit compares the timing of the first signal with the third signal to determine whether each  
7 rejected banknote has properly passed through the transporting unit to the rejected banknote  
8 storing section.